

CLAIMS

What is claimed is:

1. A cooking apparatus, comprising:
 - a cooking cavity provided with a lever passing hole on an outer bottom surface of the cooking cavity;
 - a weight sensor disposed under the cooking cavity; and
 - a lever extending from the weight sensor to the lever passing hole to allow a first end of the lever to be pushed by food placed in the cooking cavity and transmit pressure to the weight sensor through a lever action.
2. The cooking apparatus according to claim 1, wherein the weight sensor generates an output signal having a magnitude corresponding to a weight of the food placed in the cooking cavity.
3. The cooking apparatus according to claim 1, wherein:
 - the first end of the lever protrudes to an inside of the cooking cavity through the lever passing hole; and
 - a second end of the lever is in contact with the weight sensor.
4. The cooking apparatus according to claim 1, further comprising:
 - a sensor housing disposed on the outer bottom surface of the cooking cavity to accommodate the weight sensor; and
 - a lever receiving hole provided on the sensor housing to allow a second end of the lever to be brought into contact with the weight sensor accommodated in the sensor housing.
5. The cooking apparatus according to claim 4, further comprising:
 - a lever fastening unit integrated with the sensor housing to allow a portion of the lever between the first and second ends of the lever to be fastened to the lever fastening unit to allow a portion of the lever fastening unit to which the lever is fastened to function as a fulcrum of the lever when the lever is fastened to the lever fastening unit.
6. The cooking apparatus according to claim 4, wherein the sensor housing is mounted

on the outer bottom surface of the cooking cavity without covering a portion of the outer bottom surface of the cooking cavity on which the lever passing hole is formed.

7. The cooking apparatus according to claim 4, wherein the sensor housing further comprises:

at least one protrusion provided on a surface that is brought into contact with the outer bottom surface of the cooking cavity; and

at least one positioning element formed on the outer bottom surface of the cooking cavity to indicate a mounting position of the sensor housing by allowing the at least one protrusion of the sensor housing to be inserted into the at least one positioning element respectively.

8. The cooking apparatus according to claim 7, wherein:

two protrusions are provided on the surface of the sensor housing and two positioning elements are formed on the outer bottom surface of the cooking cavity; and

spacing between the two protrusions is the same as a spacing between the two positioning elements.

9. The cooking apparatus according to claim 7, wherein the at least one positioning element comprises through holes formed by punching holes in a bottom of the cooking cavity.

10. The cooking apparatus according to claim 7, wherein the at least one protrusion is inserted into the at least one positioning element formed on the outer bottom surface of the cooking cavity, respectively, without protruding to the inside of the cooking cavity.

11. The cooking apparatus according to claim 7, further comprising:

at least one wing portion provided to the sensor housing and brought into contact with the outer bottom surface of the cooking cavity; and

at least one protrusion formed on a surface of the at least one wing portion that is brought into contact with the outer bottom surface of the cooking cavity.

12. A cooking apparatus including a cooking cavity, comprising:

a rotatable tray located inside the cooking cavity to hold food;

a plurality of rollers brought into rolling contact with the tray and a bottom surface of the

cooling cavity to rotate with the tray when the tray is rotated;
a weight sensor positioned under the cooking cavity; and
a lever extending from the weight sensor to a track of the rollers to transmit pressure applied by the rollers to the weight sensor through a lever action.

13. The cooking apparatus according to claim 12, further comprising:
a control unit electrically connected to the weight sensor to determine a weight of an object laid on the tray based upon a variation of pressure measured by the weight sensor.

14. The cooking apparatus according to claim 12, further comprising:
a lever passing hole formed on the track of the rollers;
a first end of the lever protruding to an inside of the cooking cavity through the lever passing hole; and
a second end of the lever brought into contact with the weight sensor.

15. The cooking apparatus according to claim 14, wherein the weight sensor is mounted under the cooking cavity without covering a portion of the cooking cavity where the lever passing hole is formed.

16. A cooking apparatus, comprising:
a cooking cavity provided with at least one positioning element formed on an outer bottom surface of the cooking cavity;
a weight sensor adapted to generate an electrical signal corresponding to a weight of food placed in the cooking cavity;
a sensor housing positioned under the cooking cavity, in relation to the at least one positioning element, to accommodate the weight sensor; and
a bracket adapted to secure the sensor housing to the outer bottom surface of the cooking cavity.

17. The cooking apparatus according to claim 16, wherein:
the sensor housing is provided with protrusions; and
the protrusions of the sensor housing are inserted into the at least one positioning element, respectively, from below the cooking cavity, but are not protruded to an inside of the cooking cavity.

18. The cooking apparatus according to claim 16, wherein the sensor housing further comprises:

at least one wing portion brought into contact with the outer bottom surface of the cooking cavity; and

at least one protrusion provided on a surface of the at least one wing portion brought into contact with the outer bottom surface of the cooking cavity.

19. The cooking apparatus according to claim 16, wherein the bracket is secured to the outer bottom surface of the cooking cavity by welding or bonding.

20. The cooking apparatus according to claim 16, further comprising:

a ring-shaped roller supporting member disposed on a bottom portion of the cooking cavity; and

a plurality of rollers mounted on the roller supporting member to allow the roller supporting member to be rotatable.

21. A cooking apparatus including a cooking cavity, comprising:

a lever passing hole provided on an outer bottom surface of the cooking cavity;

a weight sensor placed under the cooking cavity; and

a lever protruding to an inside of the cooking cavity to transmit pressure to the weight sensor.

22. The cooking apparatus according to claim 12, further comprising:

a tray motor provided under the cooking cavity to rotate the tray; and

a rotating shaft to connect the tray motor to the tray.

23. The cooking apparatus according to claim 13, wherein the control unit further comprises:

an input unit provided with a cooking mode setting button and numeral buttons to allow a user to input cooking conditions.

24. The cooking apparatus according to claim 13, further comprising:

a magnetron driving unit to drive a magnetron to generate electromagnetic waves;

- a fan driving unit to drive a cooling fan;
- a display driving unit to drive a display unit; and
- a tray driving unit to drive a tray motor to rotate the tray in the cooking cavity.

25. The cooking apparatus according to claim 7, wherein the at least one positioning element comprises:

- a plurality of positioning elements, and a position of the plurality of positioning elements and the position of the lever passing hole form a triangle.

26. The cooking apparatus according to claim 7, wherein the at least one positioning element is formed by punching a hole on the bottom of the cooking cavity or by forming a groove on the outer bottom surface of the cooking cavity.

27. The cooking apparatus according to claim 7, wherein the at least one positioning element is spaced from the lever passing hole by a predetermined distance.

28. The cooking apparatus according to claim 4, further comprising:
an opening provided on an upper portion of the sensor housing to accommodate the weight sensor therein.

29. The cooking apparatus according to claim 28, wherein the opening provided on the upper portion of the sensor housing is brought into contact with the outer bottom surface of the cooking cavity.

30. The cooking apparatus according to claim 29, wherein the lever receiving hole provided on the sensor housing is opposite to the opening provided on the upper portion of the sensor housing.

31. The cooking apparatus according to claim 30, the second end of the lever is inserted into the lever receiving hole of the sensor housing in order to make contact with the weight sensor.

32. The cooking apparatus according to claim 5, wherein
the first end of the lever protruded inside of the cooking cavity functions as a point of

application of force; and

the second end of the lever in contact with the weight sensor functions as a point of application of the lever action to which force is transmitted.